PondMAX

WATERGARDENING TO THE MAX

PA-SERIES OUTDOOR AERATION KIT

INSTRUCTION MANUAL

VERSION
MAY 2023

MODEL
PA10
PA20

PondMAX

WELCOME TO THE WORLD OF PONDMAX™. YOU MADE THE RIGHT CHOICE INVESTING IN THIS QUALITY PRODUCT. THANK YOU AND ENJOY.

BEFORE USING THIS PRODUCT, PLEASE READ THESE INSTRUCTIONS CAREFULLY AND FAMILIARIZE YOURSELF WITH THE UNIT. PLEASE KEEP THESE INSTRUCTIONS IN A SAFE PLACE FOR FUTURE REFERENCE.

TECHNICAL SPECIFICATIONS

PUMP MODEL	PA10	PA20
RECOMMENDED POND SIZE	UP TO 5,600 LITRES	UP TO 11,200 LITRES
MAXIMUM OPERATING DEPTH	1.2 M	1.2 M
AIR FLOW RATE	10 LPM	20 LPM
POWER	10 WATTS	15 WATTS
VOLTS	240 V	240 V
FREQUENCY	50 HZ	50 HZ
	X2	X4
CABLE LENGTH	2 M	2 M
AIR TUBING SIZE (ID. X LENGTH)	4MM X 10M	4MM X 10M
DESCRIPTION OF ACCESSORIES	1 x Rubber Elbow 2x Hose Clamp (for Rubber Elbow) 1 x Metal Air Manifold (2-Way) 2 x Sphere Air Stone 2 x Rolls Air-Line 1 x Extra Diaphragm 2 x Check Valves	1 x Rubber Elbow 2x Hose Clamp (for Rubber Elbow) 1 x Metal Air Manifold (4-Way) 4 x Sphere Air Stone 4 x Rolls Air-Line 1 x Extra Diaphragm 4 x Check Valves
PRODUCT CODE	03PA304	03PA305

OUTDOOR
AERATION PUMPS

DESIGN HIGHLIGHTS

- Weatherproof casing design for outdoor use.
- Quiet operation - Outer industrial plastic casing and air baffle, plus extra buffer chamber on outlet for exceptional low noise rating.
- Dual Rubber mounting system for vibration absorption.
- Robust design - Internal aluminum pump casing for excellent heat dissipation, which assists with durability and extends pump life.
- Strong air pressure for deeper aeration and more air dispertion.
- No oil lubrication needed.
- Easy maintenance - Replaceable internal rubber diaphragms.
- Continuous rated - Designed to operate 24/7.

BENEFITS INCLUDE

The PondMAX Aeration Kits have been manufactured with advanced technology to provide you with the best quality aeration for your pond or water feature. Visit our website to view our range of pond filtration, outdoor/underwater lighting, water treatments and general accessories. PondMAX Aeration Kits are suitable for many different applications including aquariums and fish pond/water garden applications. Aeration is a very effective method of enhancing pond fish habitats, improving water quality, reducing algae, and removing phosphorus. Aeration can also break down unwanted bacteria, help with mosquito problems, and remove foul odours from a pond - all by circulating the water and adding dissolved oxygen.

IMPORTANT SAFEGUARDS

Please read the operating instructions and familiarize yourself with the equipment before placing it in service. Correct and safe use of the system requires strict compliance with these safety instructions. For safety reasons persons less than 16 years of age or persons that are not familiar with these instructions, should not use this equipment.

- Any damage to the equipment or unmerited operation can potentially bring dangers to the surrounding precincts. If there is any damage of the equipment, it must not to be used. The equipment should be placed out of reach of children.
- For your own safety, completely disconnect all electrical appliances before any maintenance of equipment is attempted on/in the tank or body of water. Always unplug the air pump from the power supply when not in use. Never pull the cable to disconnect the plug from the power supply - Grasp the plug and pull to disconnect. Care should be taken to ensure the power cable is situated to avoid a tripping hazard.
- Cutting the cable may void your warranty.
- If required, have a qualified electrician install a weatherproof power supply point in reach or the water-feature (within the cable length of the appliance). For applications within the US or Canada- make sure to plug the pump into an electrical outlet with a (GCFI) Ground Fault Circuit Interrupter. For Australian applications- always use a properly grounded power supply that is connected to an RCD, with a rated residual operating current. Do not exceed 30mA. [AS/NZS 3350.2.41:1997]
- To prevent electric shocks, do not attach the plug to the power supply socket with wet hands. On installation, the drip loop method should be used to prevent water from traveling down the cable and onto the plug or into power supply. If the plug does get wet, do not unplug the cable. Immediately disconnect the circuit breaker that supplies power to the power supply point. Unplug and examine the plug and power supply point for the presence of water. If the power point has become wet, you should consult an electrician before using the power point again.
- Do not submerse air pump directly in water. The distance from air pump to the water's edge should be at least 6Ft/1.8m. Use of the provided check valves is highly recommended, to ensure no moisture enters pump via airline.
- Do not operate the appliance if any components of the system, such as the power cable, have been damaged. Check appliance and components of the kit for defects regularly.
- Do not install or store the appliance where it will be exposed to extreme hot or cold temperatures. Do not use in ambient temperatures above 95°F/35°C
- Do not attempt to repair the electrical appliance yourself. Return to an authorized dealer or place of purchase if a fault occurs. Regular maintenance is not considered a repair (e.g. replacing the diaphragms and air filter is required by user).

PRODUCT SPECIFIC SAFEGUARDS

- Be sure the air pump itself is not submersed in water.
- The air pump is designed to be used in garden pond or aquarium applications. It is not to be used in any other manner or purpose. Do not use the pump in, or in conjunction with, any chemicals such as a solvent, gasoline or any flammable gases. The pump is designed to pump clean atmospheric air only.
- Every air pump may eventually "wander" or "creep" due to its own vibration. Avoid this by placing it on an entirely level and flat plane. We recommend securing it with some wire or cable ties to anchor the bottom of the air pump.
- PondMAX air pumps are cooled by air flowing through the inside of the motor body chamber. If the air flow becomes restricted it will overheat and could cause permanent damage to the electrical components internally. In the event that the tubing provided isn't long enough, keep in mind that large tubing size is strongly recommended to deliver adequate flow over longer distances. This is reduces friction loss within the tubing itself. The air pump air filter needs to be cleaned regularly to prevent the pump becoming clogged with dust, causing the airflow to reduce. In this event motor burnout is not a warrantable event.
- Never leave the air pump running without sufficient counter pressure (air stones). This may potentially cause the rubber diaphragms to wear or tear prematurely. The overall performance will also be greatly reduced.
- The PondMAX PA air pumps are designed to operate at a maximum depth of 4Ft / 1.2m of water. Greater depth will increase diaphragm wear. Use of the provided check valves is highly recommended, to ensure no moisture enters pump via airline.
- As with all air pumps, wear and tear will inevitably occur over time. PondMAX air pump diaphragm assemblies are easy to replace. Only use original PondMAX parts and accessories for the unit. Check the diaphragm replacement instructions and detailed diagrams later on in this manual.

INSTALLATION & MAINTENANCE

The Aeration Kit is designed for oxygen enrichment via the provided air stones and the airline. For your convenience the PondMAX PA Aeration Kits include, but are not limited to the following:

1. 2" / 50mm round air stones
2. Clear airline tubing
3. Rubber elbow
4. Hose clamps
5. Metal airway manifold
6. Spare diaphragms for future maintenance
7. 3/16" / 4MM Plastic Check Valves

Start assembly by locating the rubber manifold connector (short piece of hose) in the box and by attaching the provided hose clamps, one on each end of the connector.

Then locate the metal manifold piece and press open end firmly into one end of the rubber connector as far as possible. The remaining open end of rubber connector then needs to be put onto the outlet port of the air pump, as far as possible. Now Squeeze both hose clamps and put them in position to secure the rubber connector and to make sure it does not blow off or leak air.

Next unroll each roll of the clear airline tubing for your application. Airline can easily be cut to any length using cutters or a knife. NOTE: Always use the minimum amount of tubing needed for your application, so as not to put needless pressure on the air pump which could cause premature failure.

Now locate the air stones and push one end of each roll of airline tubing onto the plastic fitting on each of the air stones. Then connect the remaining ends of each roll of airline firmly onto the little valves on the metal manifold. The metal manifold valves can be adjusted to control and balance the air flow according to the application requirement.

Place the air stones in the water and if desired, weigh down the airline with suitable weights (e.g., fishing weights, rocks, aquatic plants, etc.) to avoid floatation. If possible, the air stones should be set in separate spots (at less than 4 ft / 1.2m of depth) to increase air dispersion throughout pond or water feature. For safety reasons it is also recommended that the air pump itself should be installed at least 6Ft/1.8m away from the water's edge.

Once the airline is connected onto pump and air stones are in desired location within the pond or water feature. Go ahead and locate the blue plastic check valves within the box. These check vales are designed to prevent water from entering the pump through the airline, in the event that system is turned off or if pump was to fail. NOTE: These 1- directional check valves require installation in the correct direction ("IN"= Inlet side "OUT"= Outlet side). Install the check valves on each of the 3/16" / 4mm airlines within 1-2 ft / 30-60cm from the metal manifold, by simply cutting the airline and pushing the check valve into airline on both sides of valve.

The air pump is considered weatherproof but must be mounted above the water level of pond or water feature at all times. If at all possible, mount pump in a cool, shaded location for minimal temperature operation, resulting in long-lasting results.

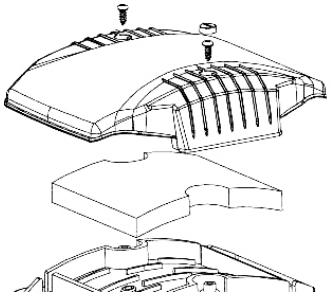
CLEANING AIR FILTER PAD

WARNING: Make sure to unplug power prior to performing maintenance on the air pump or any of its accessories. We recommend general maintenance of the unit every 3 months (more or less depending on circumstance).

The air filter under the top lid needs to be removed and the dust cleaned to free up the air flow. Do this by pulling out the 2 small rubber plugs on the top of the plastic housing to expose 2 Philips head screws.

Untighten these 2 screws to gain access to the filter sponge.

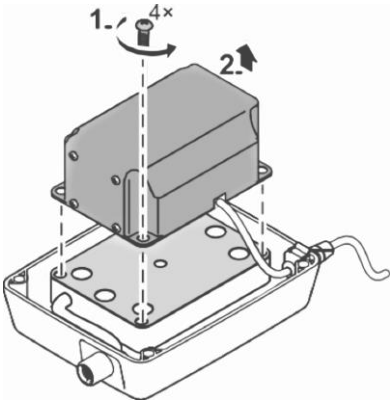
A standard household vacuum cleaner is ideal for the suction of dust and debris caught in the air filter pad.

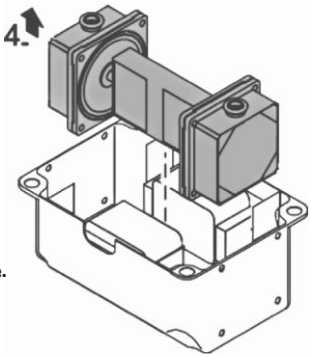


CHANGING DIAPHRAGM ASSEMBLY / RUBBER MEMBRANES

If the air flow on the pump has decreased or if there is a "ticking" sound coming from the unit, the unit must be turned off immediately. This is typically a symptom of the rubber diaphragms wearing out and needing to be replaced. To do this, it is necessary to remove the internal air pump motor from the plastic housing.

1. Locate the 4-Phillips screws on the top portion of plastic casing and untighten.
2. Once the screws have been removed, remove the top section along with the rubber gasket that seals the plastic casing.
3. Now undo the next set of 4 Philips screws around the metal cover (1) that holds the motor. Lift the metal motor housing (2) off the base and gently unsecure the cable and grommet from where it exits the plastic casing.
4. Now turn the metal motor housing over. There are 4-Phillips screws on either side of the metal motor housing which holds the diaphragm and magnet assembly in place.
5. Once the 8-Phillips screws have been loosened and removed, apply gentle pressure with a slotted screw driver or other similar tool, to free from magnetic pull and lift out diaphragm and magnet assembly as a whole from metal casing (4).



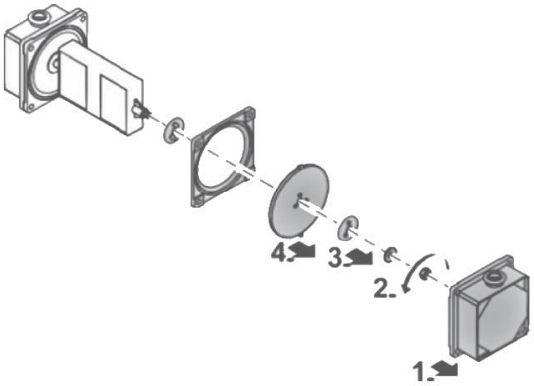


ATTENTION!
PLEASE READ THE FOLLOWING BEFORE PROCEEDING: If you are replacing the rubber membranes only, please bypass the next step (6.) and proceed to further step-by-step instructions on the next page.

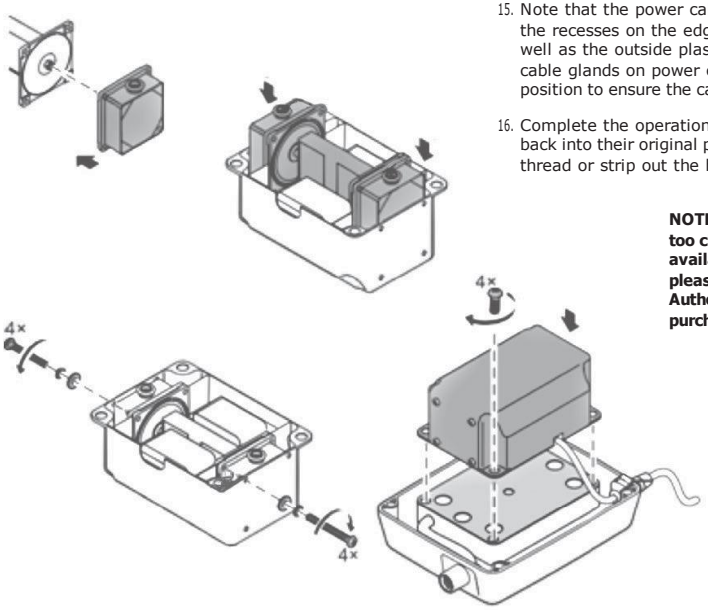
6. (If applicable) Fit the new diaphragm & magnet assembly and reassemble pump in reverse manner.

NOTE: If you are replacing the rubber membranes only, please proceed with the following steps!

7. Start by disassembling the diaphragm assemblies. Remove the air chambers (1) from the membrane frames.
8. Now loosen the Phillips screws (2) (positioned in center of rubber membrane), on either end of magnet assembly.



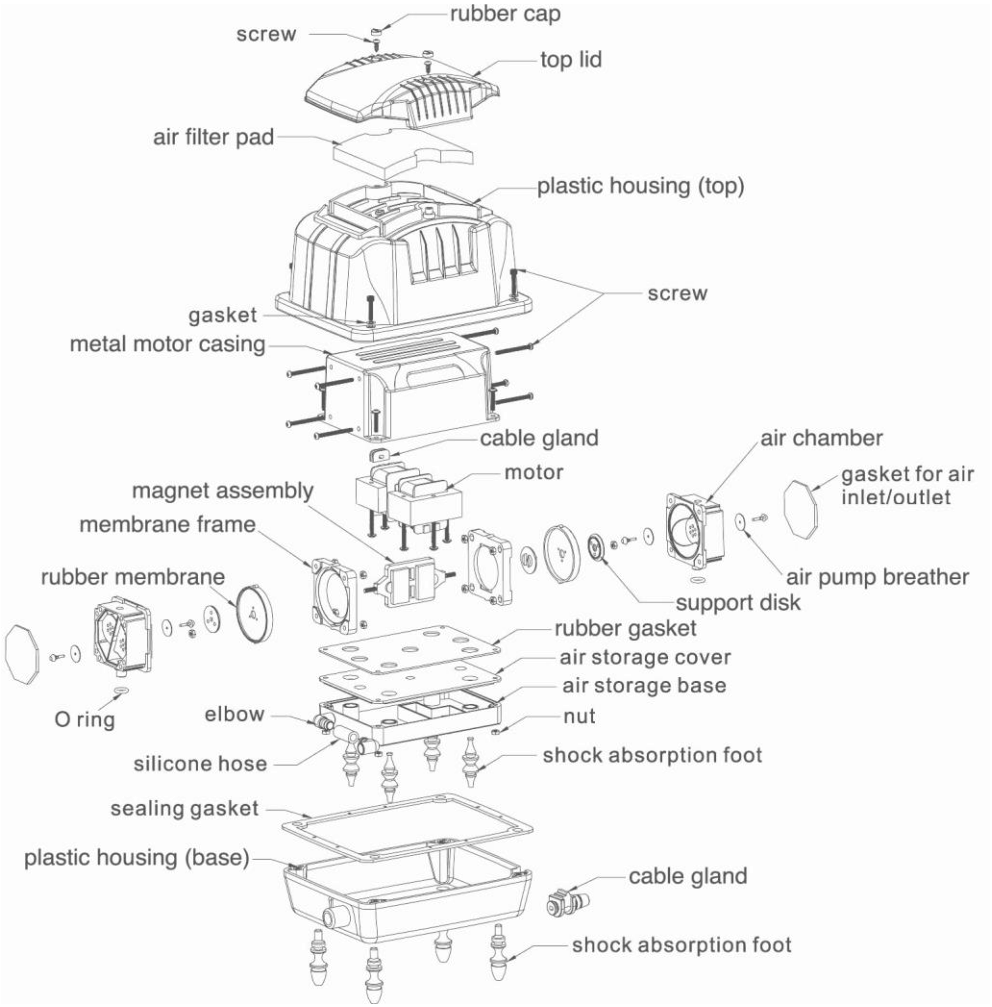
9. Before removing rubber membranes and membrane frames from either end of magnet assembly, make sure to remove the plastic support discs (3).
10. Release the rubber membrane (4) from the membrane frame by applying light pressure to the edge of the membrane to push it out of the groove.
11. Insert the new membranes on both membrane frames.
12. Ensure that the rubber membranes are positioned in the recesses of the membrane frames and are correctly seated in the groove.



13. Fit the rubber membranes and membrane frames back onto the magnet assembly. Next reinstall the support disk (tapered side against rubber membrane) on both sides of magnet. Before tightening the Phillips screw in the center on each rubber membrane, make sure that the position of both frames lines up with indentation on back of frame, that slightly mocks contour of magnet. This indentation is designed to prevent the frame from hitting the magnet during operation.
14. Begin reassembling remaining components in the reverse manner.
15. Note that the power cable should fit snugly back into the recesses on the edge of the metal motor casing as well as the outside plastic housing. Make sure that the cable glands on power cable are lined up in the correct position to ensure the cable won't be pinched or kinked.
16. Complete the operation by fastening all the screws back into their original positions. Take care not to cross thread or strip out the heads on the screws.

NOTE: If this repair is felt to be too challenging or tools are not available to carry out these steps, please take the unit back to the Authorized Dealer or place of purchase to request assistance.

PARTS BREAKDOWN



AVAILABLE REPLACEMENT PARTS

DESCRIPTION	PA10	PA20
REPLACEMENT DIAPHRAGM ASSEMBLY	11PR916	
REPLACEMENT WHITE OUTLET ELBOW & CLAMP	11PR967	
REPLACEMENT BLACK DIAPHRAGM ELBOW	11PR968	
PONDMAX AIR STONE 50MM SPHERE	03PA307	

TROUBLESHOOTING

PROBLEM	REASON	SOLUTION
PUMP NOT WORKING	No Power	Check that the plug on power cable is connected to power and confirm that power point is working.
	Bad Motor	Replace the air pump (if applicable).
	Damaged Cable	Inspect the entire length of the air pump cable and look for cuts or damage resulting in exposed copper wire. Replace cable or complete unit.
PUMP WORKING INTERMITTINGLY	Damaged Cable / Short Circuit	Inspect the entire length of the air pump cable and look for cuts or damage resulting in exposed copper wire. Replace cable or complete unit.
	Clogged Airline / Defective Check Valve	Inspect the entire length of the airline tubing for blockage and check functionality of check valves. Replace airline or check valves if unrepairable.
	Defective Pump	Inspect the inside of the air pump and make sure that it is free of any signs of damage or moisture. Replace air pump if problem continues.
	Air Filter Pad Clogged	Disassemble top of pump per these instructions and check the air filter pad for discoloration, caused by dust or dirt. Using a household style vacuum cleaner, suck debris out of pad until visibly clean. And reinstall.
	Bad Diaphragms	Disassemble pump per these instructions and check the diaphragms for excessive wear and tear or possible tearing. If diaphragm is damaged, go ahead and replace before operating the unit again.
PUMP WORKING WITH MINIMAL AIR FLOW OR MAKING LOUD NOISE	Bad Diaphragms / Membranes	Disassemble pump per these instructions and check the diaphragms and rubber membranes for excessive wear or possible tearing. If diaphragms or membranes are damaged, go ahead and replace before operating the unit again.
	Air Filter Pad Clogged	Disassemble top of pump per these instructions and check the air filter pad for discoloration, caused by dust or dirt. Using a household style vacuum cleaner, suck debris out of pad until visibly clean. And reinstall.
	Clogged Airline/Defective Check Valve	Inspect the entire length of the airline tubing for blockage and check functionality of check valves. Replace airline or check valves if unrepairable.

WARRANTY

- This product is warranted to the initial purchaser to be free of defects in materials and manufacture workmanship at the time of initial purchase and for a period of 2 years after. Some parts are consumable (e.g. complete diaphragm assemblies as well as the air filter pad) and will need to be replaced as part of ongoing product maintenance and are not covered by this Warranty. In the event this unit malfunctions within 2 years from the date of purchase, the sole obligation of PondMAX™ (hereinafter referred to as PondMAX™) will be to repair the unit or replace with an equivalent new or factory refurbished unit at PondMAX's discretion, subject to the following condition:
- The malfunction is proved attributable to a defect in materials or manufacture workmanship, including repairs performed under this warranty. Malfunction for any other reason including but not limited to misuse, negligence, accident, or tampering with parts, incorrect wiring, or improper installation-will not be remedied under this warranty.
- PondMAX™ specifically does not guarantee chemical compatibility, and expressly does not warrant units from any problems caused by chemical attack or failure due to incompatibility of fluid used near this aeration system.
- All warranty repairs must be performed by PondMAX™ or a PondMAX™ authorized company.
- Purchaser must retain the purchase receipt and present it with this certificate as proof of ownership and entitlement to warranty repairs. Unauthorized repairs will not be compensated by PondMAX™, and are not the responsibility of PondMAX™, and if such repairs damage the product, such damages are not remedied under this warranty.
- Purchaser shall bear all onsite labor, shipping, packing and insurance costs and all other costs, excluding in house labor and parts necessary to effectuate repairs under this warranty.
- This warranty is in lieu of all other express warranties which now or hereafter might otherwise arise with respect to this product. Any and all limited warranties, including the warranties of merchantability and fitness for particular purpose, shall have no greater duration than the duration period of the express written warranty applicable to this product, and shall terminate automatically the expiration of such duration period.
- Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. No action shall be brought for breach of any implied or express warranty after one year subsequent to the expiration of the duration period of the express written warranty.
- Incidental and consequential damages caused by malfunction, defect, or otherwise, and with respect to breach of any express or implied warranty, are not the responsibility of PondMAX™, and, to the extent permitted by law, are hereby excluded for property damage, loss of livestock and, to the extent not unconscionable, for personal injury damage. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- This warranty does not apply to any malfunction arising out of any application of this product other than normal use, unless such application is upon request specifically approved in writing by PondMAX™.
- The provisions of this warranty are severable and if any provision shall be deemed invalid, the remaining provisions shall remain in full force and effect.
- Rights under this warranty are not assignable without the express prior consent in writing by PondMAX™ and, regardless of the terms of such consent in writing, such assignee shall have no greater rights than his assignor had against PondMAX™.

Please consult your retailer for quality original PondMAX replacement parts.
Visit www.pondmax.com for your nearest dealer.

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